THE VETERINARY RECORD

A Weekly Journal for the Profession.

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No. 1216. OCTOBER 28, 1911. VOL. XXIV.

BOVINE DISEASES.

Of late we have had quite an unusual number of articles and communications upon a class of subjects which have been neglected by British veterinary writers, viz., bovine diseases. Two good results have followed.

In the first place, we have learned something of a bovine skin disease which does not seem to have been hitherto described, but nevertheless appears to have been somewhat common recently in various parts of the United Kingdom—for there is little doubt that the descriptions given by Messrs. Hoare, Hills, Golding, and Airey relate to one and the same affection. It is a benign but by no means an unimportant affection, the pathology of which is still obscure; and its recent recognition by clinicians is a distinct addition to our professional knowledge.

In the second place, we have had several comprehensive articles by different practitioners upon the much wider and more important question of bovine digestive disorders. These also, in the gross, will well repay perusal and re-perusal. They mark no great advance, but they stimulate independent thinking; and they illustrate a truth which some members scarcely yet fully appreciate. They show how wide and complex a field of study bovine digestive disorders present, and how little is certainly known regarding many of its problems. Very little of note has been written upon the question by our countrymen, and the result—especially when we consider the every-day importance of the subject to the country practitioner—is not creditable to us as a profession. Broadly it may be said that the sporadic diseases of the bovine omasum, abomasum, and intestines, as regards their pathology, diagnosis, and therapeutics alike, are still practically unexplored ground. Probably their clinical differentiation, like that of the equine colics, will always form very debateable ground; but it is quite certain that we might learn more of the diseases themselves than has been learned yet.

We shall only do so in one way—by careful clinical observation, checked whenever possible by post-mortem examination. The recent articles made it clear that some practitioners are working at the question on these lines as opportunity offers, and their work should stimulate others to follow their example. In so wide and obscure a subject, advance is most likely to come from a comparison of the experience of many men, and country practitioners might well take up the study of bovine digestive disorders. The whole subject is a more important branch of country veterinary practice than it ever has been before; it is still one of the least understood, and it is one of the few that can only become better understood by the observations of country practitioners.

CONGENITAL DIAPHRAGMATIC HERNIA.

By W. R. DAVIS, M.R.C.V.S., Enfield.

In May last I was sent for to attend a valuable thoroughbred foal, three weeks old, which had been previously quite healthy but on this morning, after being turned out with its dam in a paddock, was found standing by itself and breathing quickly and with difficulty.

With its dam it was immediately put in a box. I found the temperature to be 103, and the pulse not greatly disturbed. The nostrils were somewhat dilated, and the breathing, though faster than normal, was not very rapid, it was, however, what might be characterised as disordered. The ribs showed up very prominently, and the abdominal walls rose and fell in an irregular manner, in fact one would have said, a broken-winded foal. On auscultating the chest I could hear no respiratory murmurs whatever on the left side, but in their place sounds that were distinctly intestinal. On the right side loud vesicular murmurs could be heard, but here, too, intestinal rumblings at times quite obscured them. The foal had emptied the mare's bag and seemed quite cheerful.

I told the stud manager that the case was peculiar, and that, though it could hardly be the case, it seemed to me that the bowels were in the chest among the lungs. I advised him to report the case as congestion of the lungs, and to state that the foal was in a serious condition.

The mare and foal were kept in the box for three weeks, the little patient emptying the bag and keeping quite lively; temperature and heart beat being about normal, but the respirations continuing much the same. There was no cough, and no discharge from the nose. When I coughed the foal I got a distinctly broken-winded cough from him.

One day the mare was given tares, of which the foal also partook, this gave rise to indigestion and diarrhœa, followed by a pronounced attack of dyspnœa.

All this time on auscultating the chest the intestinal rumblings could be heard, particularly on the left side, and respiratory sounds only on the right side. I now had the mare and foal turned out to grass for a few hours in the early morning. The foal galloped about, but quickly came to a standstill, legs apart, nostrils dilated, flanks heaving. After a while he recovered and gravely followed his mother.

At this time I came to the conclusion that a portion of the lung had remained in a state of fœtal collapse and that there was emphysema of the rest of the lung, and advised that the foal should be

put away as never likely to make a racehorse. The owner wrote to say that if that was my opinion we had better destroy the foal.

A few days after these instructions were received, and while we hesitated about carrying them out, our patient had a violent attack of colic and died.

Post-mortem. On removing the ribs a mass of the small intestines, dark-red and filled with bloody fluid, was found in the chest cavity, where also a portion of the colon and most of the cæcum together with the left lobe of the liver were lying. They had gained access to this cavity through a large orifice in the diaphragm, low down and towards the left side, the hiatus being due to a want of soldering between the phrenic and muscular parts of this curtain.

The anterior part of the lung was collapsed, the posterior part emphysematous, while the right lung, though anæmic, seemed fairly normal. Death was due to strangulation of the intestines.

Veterinary Report on the French Operations in Morocco for the Relief of Fez, 1911.

La Semaine Vétérinaire for the 15th July, publishes the following interesting account of the working of the Veterinary Services in Morocco, by M. le Vétérinaire en premier Fraimbault.

"There was no proper organisation as in the former Colonial Expeditions to Madagascar and China, a Director of the Veterinary Service not having been appointed. The equipment of the Columns with veterinary medicines and stores, which were very limited, was entrusted to 1st Class Veterinary Surgeon Belleval, the S.V.O. in the Shawia district, and Director of the Casablanca garrison infirmary. He had also to post to the different columns the Veterinary Officers, according to their length of service in the colony or the date of their landing in Morocco.

"All the Veterinary Officers arriving from France in charge of animals were provided with the regulation cautine, also the following units, Battery, Squadron, Senegal battalion and the Mounted company of the Colonial Infantry, were similarly equipped.

"Those Veterinary Officers who came out unattached to units had, on their departure to the front, to provide themselves with veterinary chests, which were generally cut down. and some indispenisble instruments omitted, on account of difficulties which were experienced in obtaining transport. Some units and small detachments which had requisitioned veterinary stores were provided by M. Belleval on their departure from Casablanca, with certain compounded drugs for the treatment of those diseases which occur most frequently in the field.

"Owing to the large number of injuries of every kind, of which the most severe were caused by pack saddles, the supply of veterinary stores was soon exhausted, and hardly any remained when Fez was reached. Later, on the organization of the Supply Services, 1st Class Veterinary Surgeon Guenot was able to send forward certain veterinary stores from Mehedia, the supply base, and it was also possible to purchase certain stores at Fez at a reasonable price.

"While the Medical Service has appeared to me to be perfectly organised throughout this Campaign, the Veterinary Service has, in comparison, been deficient in personnel from the beginning, and the supply of medicines and dressings has been very insufficient. Until the columns set out to the relief of Fez, they had but two 2nd Class Veterinary Officers, with only a Veterinary Cantine for the most important units. Each of the Veterinary Officers, accompanying a column have had a platform cart, mule, or camel placed at his disposal for the transport of the necessary equipment.

"Three Veterinary Officers accompanied the Columns on the march to Fez; 2nd Class Veterinary Surgeon Charvot with Brulard's Column, with which he remained throughout the whole Campaign; 1st Class Veterinary Surgeon Fraimbault and 2nd Class Veterinary Surgeon Millet with Dalbiez's Column.

"Some days later, Assistant Veterinary Surgeons Pflieger and Carpentier arrived at Fez with Gouraud's Column. The Veterinary Service was now organised as follows:

"There were three Senior Veterinary Officers. At Casablanca, the S.V.O. of the Army, M. Belleval. At Mehedya, the S.V.O. of Transport, 1st Class V.S. Guenot, who managed a depot of injured animals and supplied the Veterinary Officers at the front with stores. At Fez, the S.V.O. at the front, 1st Class V.S. Frambault, with Assistant V.S. Pflieger attached, in charge of an important depot of injured animals.

"The three Columns, Dalbiez's, Brulard's and Gouraud's based on Fez, had each one or two Veterinary Officers, Rousselot, Colette, Carpentier, and Chalvat. In addition, two or three other Veterinary officers (Germa and Monnier) were distributed along the Line of Communication, making altogether a total of twelve, of whom four were 1st Class Veterinary Surgeons, the number of Veterinary Officers attached to the disembarking units.

"The columns were made up of all branches of the Service, with an important convoy of pack mules from Algeria and Camelo. They returned periodically to Fez with a large number of casualties amongst the animals, The injuries, almost all caused by pack saddles, were usually very severe, the result of badly balanced loads, and overloaded animals remaining too long under the saddle. After operations lasting only 30 days, it was not unusual to see enormous fistulous withers and large sloughing areas of skin exposing three or four ribs, but these wounds, which were in every case covered with dust, healed quickly in spite of their severity.

The depot of sick animals at Fez.—This depot was attached to the transport and possessed no equipment. The sick, to the number of nearly 200, were placed on picket lines under the supervision of a quarter-master, in the midst of a camp situated about 1¼ miles from Fez. They were exposed to the full glare of the sun, and tormented by flies,

which did not give them a moment's peace, and caused them to rub and roll in order to obtain relief. The majority were suffering from pack saddle galls, necessitating surgical interfereuce, others from gunshot wounds. The remaining animals under treatment were chiefly large Artillery horses, exhausted by fatigue, which were almost impossible to resuscitate, owing to the lack of forage, hay or straw.

"The professional work began each morning at 6 o'clock and was never finished before 10 or 11, this, owing to the great heat, was very trying.

"The animals of the Columns, which were given a ration of inferior barley on the march, were turned into fields of standing barley or wheat at the halting places on account of the difficulty of transporting the forage.

"During the rapid march of the columns on Fez, all the animals displayed considerable powers of endurance. The relieving troops accomplished 10 marches of about 25 miles each, without a day's halt between Casablanca and Fez. It is true that it was at a favourable season, the heat being quite bearable, the nights cool, and the country flat except in the neighbourhood of Fez; all the rivers were fordable except the one at Rabat, and not a drop of rain fell. Nevertheless, since it was necessary to march quickly and to arrive at all costs, some losses from overwork resulted, and a certain number of exhausted mules, which were unable to keep up, had to be destroyed.

"In this rapid march upon Fez, the camels had no opportunity of grazing, and as they were given no grain rations, wastage quicbly began, and there were considerable losses amongst them.

"Blood examinations, made by Hormus, showed no evidence of Trypanosomes or Piroplasms, which might have been expected from the numerous dull flies (taons) attached to the thighs, and from the progress of the cases, which at first exhibited a high temperature, followed by emaciation, want of appetite, and, towards the end, diarrhœa.

"Up to the present time no contagious disease has been recognised in the columns, nevertheless rigid sanitary measures have been ordered to safeguard our units from glanders, which exists amongst all the tabors of the Moroccan Cavalry. This affection, which has been thoroughly studied since our arrival at Fez. had never been seen in the district of Shawia—Has it been introduced by some one? It has been demonstrated by post-mortem examinations, mallein injections, and the inoculations of a donkey foal, that it is really glanders, and not an affection simulating it which is only slightly contagious, and would consequently be only relatively dangerous to our animals.

"The tabors of the Moroccan Cavalry are seriously infected, and it has been necessary to destroy a certain number of horses.

Sanitary inspections, extending over some days, have enabled us to isolate the doubtful cases, but it is only by malleining all the animals that it will be possible to eradicate this formidable disease, which is a serious danger to our units, and prevents the Morrocan Cavalry being more actively employed with our columns.

"The Army of Morroco consists of a certain number of tabors of Cavalry, Infantry, and Artillery, with a detachment of Engineers; the tabor of Cavalry corresponds to a squadron, and that of Infantry to a battalion. The total strength of horses and mules at Fez is over 1200. When we arrived at Fez all the tabors were encamped near the town; since then some have been moved to certain important centres.

The Morrocan Army, which is commanded by French Officers and non-commissioned officers, is to be reorganised and increased. Provision has been made for three Veterinary officers, of whom one is to be a Veterinary Officer of the 1st Class. This number will not be sufficient, on account of the disease which has spread throughout the Cavalry." —(*Revue Génerale de Médecine Vétérinaire*, 15th Sept., 1911).

Military readers will find interesting notes of the operations which were carried out during the period covered by the above report in the Journals of the Royal United Service Institute for May, June, July, and August, 1911.

L. J Blenkinsop, Colonel A.V. Service.

Report of the Army Veterinary Department with the Suakin Field Force, from the 14th March to the 14th May 1885.

From the Principal Veterinary Surgeon in Egypt to the Principal Veterinary Surgeon, War Office, London.

Head-Quarters, Cairo, 25th June, 1885.

Sir,—I have the honour to forward the following report on the working of the Army Veterinary Department with the Suakin Field Force, during the recent military operations in the Eastern Soudan, from the 14th March to the 14th May, 1885. These dates may be considered as representing the commencement and termination of the campaign.

You are aware that, owing to the great strain on the Department, caused by the requirements in India, Egypt, and the Cape, the number of Army veterinary surgeons employed with the expedition was out of all proportion to the complement laid down in the Veterinary Regulations; and that, at no period of the campaign had I more than nine executive officers for duty with upwards of 13,000 animals. I do not include the veterinary surgeon of the Australian Contingent, whose duties were entirely confined to the horses of the New South Wales Artillery.

The promptness with which you responded to the application for more officers, which I caused to be telegraphed from Cairo on the 27th February, 1885, did much to relieve the strain; but had the campaign been prolonged, it would have been necessary to have considerably augmented the department.

When it is taken into consideration that each executive veterinary surgeon was more or less responsible for the health and efficiency of many hundreds, and, in some cases, thousands of animals; that his charges were frequently scattered over miles of ground; that the nature of his duties required him to be in the saddle for many hours daily, exposed to the tropical heat of an unhealthy climate; that in many cases he had to work with an insufficient staff, and often under great disadvantages, the unduly heavy and harassing nature of his duties will be understood, and the reason afforded why the health of so many of our officers broke down.

Notwithstanding these facts, the veterinary duties were zealously and efficiently performed; and it is satisfactory to remark that not a single complaint from any of the various officers commanding mounted troops or transport corps, was received by me at any time during the campaign.

On assuming the administrative veterinary charge of the field force, and having made myself familiar with the organization of, as well as the distribution of the animals belonging or attached to, the various regiments or corps, I proceeded to make as fair a division as possible of the executive duties, taking into consideration the special qualifications of each individual officer.

A veterinary surgeon was appointed as sanitary officer on Quarantine Island, for the purpose of inspecting all ships arriving with Government animals, and examining all animals immediately on landing, with the view of preventing the introduction of contagious diseases. The duty was efficiently performed, in the first place, by Veterinary Surgeon Sharp, and subsequently by Veterinary Surgeon (First Class) Gillard.

In order to facilitate the treatment of the more serious cases of sickness and lameness amongst the horses, and for the purpose of keeping the mounted troops at the front as effective as possible, I caused a veterinary hospital to be established at the base, under Veterinary Surgeon Aitkin, assisted by a Farrier Quarter-Master-Serjeant and two shoeing-smiths. Temporary stabling for 80 horses was erected, and adequate arrangements were made for shoeing. I consider the work done at the Base Hospital to have been highly satisfactory. Not only were the stables nearly always full, but numbers of animals under treatment had to be picketed in the lines.

In consequence of the skill, care, and attention paid to the cases by Veterinary Surgeon Aitkin and his assistants, many valuable animals were saved, which, under less favourable circumstances, would probably have been lost to the service.

Owing to the arduous nature of the veterinary duties, it was impossible to expect the case books to be kept up and returns furnished, as on home service. I, therefore, directed that the cases should be entered in the Register only, and none but important ones recorded; also, that half-monthly returns should be rendered, with the diseases grouped. This system, I found, relieved the veterinary officers of much unnecessary labour, and worked very satisfactorily. Each officer was, of course, responsible for the correctness of his statistical information.

With the view of detecting and suppressing contagious diseases, careful sanitary inspections of all animals, lines, etc., were periodically and systematically made, and directions given for isolating, and placing under close observation, cases of a suspicious nature.

On account of the presence of contagious skin disease amongst the transport camels landed for the use of the expedition, and the necessity for segregating the animals affected, a lazaretto zereba was formed on the 18th March on a convenient site, affording sufficient protection from the enemy, for the reception of contagions cases. An adequate staff was appointed under the supervision of Veterinary Surgeon (First Class) Rayment, and Farrier Quarter-Master-Serjeant Smith, of the Commissariat and Transport Corps, was placed in immediate charge. The services of this non-commissioned officer are well worthy of special consideration, for his duties were extremely arduous, and carried out in a highly praiseworthy manner.

The result of the establishment of this zereba has been most satisfactory. Upwards of seven hundred cases were admitted to treatment up to the 14th April, when, owing to the precautions taken, parasitic skin disease became practically stamped out. On this date arrangements were made for changing the ground, and converting the zereba into a general sick camel infirmary, which worked well up to the termination of the campaign.

A veterinary store was established under the supervision of Veterinary Surgeon (First Class) Gillard, at the base, immediately on receipt of the medicines and surgical appliances from England. A properly organised system of accounts was adopted, and arrangements were made for the speedy transmission of medicines on requisitions to veterinary surgeons at the front. The duties connected with this establishment were very efficiently carried out by the veterinary officer in charge.

In addition to the veterinary stores from England a number of small chests termed "unit cases," were forwarded by my direction from the veterinary stores at Cairo, for use during the campaign. Each of these cases contained an assortment of camel medicines for internal and external use, and they were sufficiently portable for either camel or mule transport.

The veterinary field wallets sent out for use with the expedition are, in my opinion, very complete, and deserve to be ranked amongst the most valuable of the veterinary appliances provided for active service. The military operations were, however, not of sufficiently long duration to give them an extended trial; but those which were issued by my direction to the farriers of mounted corps were of great use on several occasions, when the larger field chests were not available. For flying columns and small detached mounted parties, they are invaluable.

A Remount Depot was established at the base, under the command of Major Anstruther, D.A.A.G., and subsequently under Major Lloyd, 20th Hussars, assisted by Veterinary Surgeon Aitkin. The arrangements were very complete, and the working of this establishment was satisfactorily carried out.

The only actual remounts received was a batch of 145 horses and ponies which arrived from India on the 30th March for the Guards' Mounted Infantry. The remainder of the animals at this depot were principally transfers from regiments and corps.

The shoeing was conducted by the base hospital farriers, and the official books were supplied from the stock forwarded by you for my use.

An advanced Veterinary Hospital was formed at Handoub, about ten miles from Suakin, on the 18th April, under the supervision of Veterinary Surgeon (First Class) Gladstone, assisted by Veterinary Surgeon Betser, who also had charge of the Lines of Communication to Tambuk. An adequate supply of medicines, etc., was forwarded from Suakin, and all the necessary arrangements made for the reception and treatment of animals at the station, and if necessary from the advanced posts of Otao and Tambuk.

The duties of this establishment were carried out very efficiently.

The horses and mules were kept fairly well shod up during the campaign, and the shoeing was on the whole, good. The system of "cold fitting" was, on my recommendation, generally adopted, and the new pattern machine-made shoes and nails were used, as far as was practicable, especially amongst the lighter horses. I believe this is the first trial on active service. Their principal advantages appear to be:—

1. The ease and celerity with which they can be fitted cold.
2. The superior quality of the iron.
3. Their lightness, durability and finish.
4. The fact that the heavy field forge, with the fuel and plant for shoe-making, can be dispensed with; the small pack forge being merely necessary in the few cases where heat is required.

The immense advantages of the latter, especially in a campaign in the desert, where wheel transport is almost impossible, can be readily understood.

The staff of farriers and shoeing-smiths with the field force was sufficient for all requirements, but, with the exception of the eight shoeing-smiths who arrived from England under Farrier Quarter-Master-Serjeant Kemp, 20th Hussars, on 17th March, and whose services were at once utilised, there was practically no reserve to fall back upon in the event of sickness or other casualties occurring. Had the military operations been prolonged, the absence of a sufficient reserve of farriers might have been a matter of serious moment.

The sanitary arrangements of the camps and zerebas, from a veterinary point of view, were as good as were possible under the circumstances. Constant personal attention was paid both by myself and the veterinary officers under my supervision, to this important feature, and any suggestions made were promptly carried out.

The forage issued for the use of the troops was fairly good in quality, and sufficient in quantity. English hay and oats or compressed forage, were principally supplied for the use of the English horses, except during the latter part of the campaign, when a proportion of Indian hay was substituted. In many cases the compressed forage was found to be musty, and some of the bales I examined were mouldy. This, however, was the exception.

The horses of the British Cavalry Brigade were fed for some six weeks upon Graves' grain cake, together with either the hay cake or baled hay. All of this grain cake that I examined was in good condition, and I consider it to be an excellent form of portable forage for service. Both this and the hay cake should be used with the improved nosebag. The native horses and mules were fed on barley and chopped straw.

The Indian contingent made their own forage arrangements; the grain, hay, and other classes of food were apparently of good quality.

The tibben, beans, and barley supplied for the use of the camels were excellent. I experienced some little difficulty at first in getting the barley crushed. The beans were all split. Bran was supplied as required.

It was impossible to procure green food for the sick horses and mules, but a sufficient quantity of young *mimosa* (camel thorn) was obtained for the sick camels, and was cut and brought in as required. Other edible shrubs were also utilised.

Arrangements were made for grazing these animals in troops whenever the military situation would admit of it.

The arrangements for watering the animals, both at Suakin and at the advanced posts, were well conducted. The water was sufficient in quantity, and on the whole, of fairly good quality; but that in some of the wells was slightly brackish. The water troughs were frequently inspected, and any suggestions with reference to sanitary improvements met with immediate attention.

The average number of horses, mules, camels, and bullocks, actually employed with the Field Force from the 14th March to 14th May, 1885, is as under:

Horses (including charges)	2604
Mules	3232
Camels	6650
Bullocks	300
Total	12,786

This total does not include the ponies belonging to officers, natives, etc., which would probably bring the average number up to about 13,000.

As regards the quality of the English horses belonging to the British Cavalry Brigade, Royal Horse Artillery, Royal Engineers, and Transport Companies, very little need be said, as they were fair specimens of the class of animal seen in each particular arm on home service. With respect to their suitability for campaigning in a climate like that of the Eastern Soudan, under the peculiar conditions of desert warfare, I am of opinion that had the military operations been extended, and continued through the summer months, the sickness and mortality amongst the English horses would have been very great. The Royal Horse Artillery, and draught animals generally, kept their condition very well the whole time, and they were comparatively free from sickness; but except in two or three instances, such as the advance to Tamai, they were never subjected to severe exertion, and being at or near the base, were always within reach of suitable food, shelter from the sun for their sick, and good water. The British Cavalry, on the other hand, were more or less continually on the move, especially the detachments at the advanced posts, and the result was that they lost condition rapidly, many of them becoming very emaciated. The percentage of sickness was considerable, and an unusual number of cases of sore back occurred amongst the horses of both Cavalry regiments.

Amongst the horses may be included Egyptians, Indians, "Walers," and a few Syrians and Russians.

The first class consisted of useful and generally well-bred animals, principally purchased in Lower Egypt for the use of Mounted Infantry, and were, in my opinion, extremely suitable for the class of mounted work required in desert warfare. These horses were nearly all entire, as a rule about 14 to 14-3 hands high, and sufficiently strong and hardy to perform the work required of them. They certainly endured the hardships and climatic influences to which they were exposed remarkably well.

The Indian native-bred horses and "Walers" used by the 9th Bengal Cavalry, appeared to do their work without materially suffering in condition, although they were somewhat "fine drawn" at the end of the campaign.

The remarks with reference to the Egyptian horses apply equally to the few Syrians employed. The Russian horses were fortunately very few in number. They were, as a class, coarse, under-bred and comparatively useless animals.

The transport mules were procured from various districts in Lower Egypt, Cyprus, Gibraltar, Malta, and India, and require no special classification; for, with the exception of some unfortunate purchases—animals either too young, or of extreme age—they were strong, hardy, and useful for either draught or pack work, and, as rule, they kept their condition throughout. I would make special mention of the excellence of the mules employed with the Royal Artillery. I am very strongly impressed with the superiority of mule over camel transport, in any country where even a moderate water supply can be ensured.

The camels purchased for service with the Suakin Field Force may be briefly divided into three classes:

1. The Delta camels purchased in the various districts of Lower Egypt.
2. The desert camels from Berbera and Aden.
3. The Indian camels.

I regret to say that my remarks with reference to the first-class must be anything but satisfactory. A very large proportion of the camels purchased in Lower Egypt were inferior in quality, deficient in size and power, either too young, too old, or otherwise physically unfit, and very many were suffering from (mange) and bad sore backs, on arrival at Suakin. The condition of these animals may in some measure be accounted for by the fact that a considerable number of them were purchased without the advice and assistance of a competent veterinary surgeon. The Delta camel in its own country is, as a rule, freely and regularly watered, and at certain seasons is well supplied with green food. Consequently, at its best, this animal cannot be considered as being so well suited to the requirements of a

campaign in a country like that of the Eastern Soudan, as the ordinary desert camel.

The sickness and mortality amongst the camels from Lower Egypt considerably exceeded that of any other class.

2. The Berbera and Aden camels are smaller, lighter and more active animals than those just referred to, and although they are unable to carry the same amount of weight, this is, in some measure, compensated for by their increased powers of endurance. This is an important feature in a country where both water and green food are scarce. The small fawn-coloured Berbera camels with the Field Force, did their work satisfactorily, and appeared to be well adapted for campaigning in the desert.

3. Indian camels. The transport camels imported from India were strong, useful, healthy-looking animals, and appeared to have been selected with care. They were not so active as the desert camels, but were able to carry more weight. They were much more hardy than the Egyptian camels, and suffered from sickness in a less degree.

Five hundred Sowari camels were procured from India, for the formation of a riding camel corps. In point of conformation and general physique, these animals were splendid specimens of their class, and were able to carry their double loads with the greatest ease, at a very fair pace.

Bullock transport was employed only by the Indian Contingent at the base operations, and about 300 "byles" were used for this purpose, and were worked in light country carts. These animals were sound, useful beasts, of a good class, and did the work they were called upon to perform with ease; but this class of animal is not suitable for either wheel or pack work in the desert, where scarcity of water, absence of green food, the nature of the country, etc., are all opposed to the success of bullock transport.

In submitting the following remark on the working of the Veterinary Department of the Indian Contingent, I beg to observe that its undoubted success was, in my opinion, in a great measure due to the favourable conditions of the military operations, which allowed of sufficient concentration of the mounted troops and transport animals, to enable a zealous and energetic Veterinary Officer to make daily inspections, and to have his large and important charge under his immediate control: and was not due to a system which, under less favourable circumstances, might have resulted in failure.

The following return of animals submitted on the 7th April, represents about the average number employed with the Indian Contingent:—

Horses and ponies	828
Mules	1896
Bullocks	302
Camels	6
Total	3032

It will be noticed that the value of mule transport was fully recognised by the Indian authorities.

Veterinary Surgeon (First Class) Rayment, was in sole charge of this force, assisted by the following establishment of native farriers, etc.:—

Chief salootrie	1
Assistant Salootries	14
Nalbunds	19

In addition to this staff, a farrier-sergeant was employed as veterinary store keeper and dispenser. The whole of the medicines, stores, instruments, shoes, nails, etc., were supplied by the Indian Government, and were ample for all requirements. Each squadron of Bengal Cavalry, and each transport salootrie, was provided with two field medicine chests complete, in addition to the regimental chest. Mr. Rayment had also a six months' supply of reserve medicines in store.

I consider that the veterinary duties connected with the Indian Contingent were very efficiently performed.

The horses of the New South Wales Artillery were under the immediate veterinary charge of Mr. Willows, a colonial veterinary surgeon, who was amply provided with medicines, stores, shoes, nails, and all the necessary appliances. The animals were mostly strong, useful horses, but, as a rule, were deficient in quality.

The following table shows the number of cases admitted to treatment during the campaign, together with the result, calculated, for the sake of convenience, up to the 31st instead of the 14th May, 1885:—

Description of animal.		No. of cases admitted.	No. of cases discharged.	Cured.	Relieved.	Incurable.	Died.	Destroyed.	Remaining.
Horses	...	648	595	332	188	3	40	32	53
Mules	...	724	583	468	4	...	86	25	141
Camels	...	1872	1852	947	440	...	282	183	20
Bullocks	...	85	79	76	...	...	1	2	6
	Total	3329	3109	1823	632	3	409	242	220

The unusual number of cases shown in the column "relieved," is due to the fact that many of the animals under treatment for slight injuries were embarked on the reduction of the Field Force, before being quite fit to be discharged "cured."

Amongst the cases shown in the column "died," are included 23 horses and 78 mules killed at Hasheen and in the action at the zereba on the 22nd March. The loss of camels at the latter engagement, estimated at between 800 to 900, is not included. Two horses killed at Tamai on the 3rd April, were accounted for amongst the deaths. The animals shown as "destroyed" were all affected with disease, or were suffering from accidents of an incurable nature.

Four cases of glanders and one of farcy occurred amongst the horses of the 5th Lancers during the campaign; but owing to the exertion of the executive Veterinary Officers, and to the prompt action taken by the military authorities in carrying out the urgent sanitary measures suggested, the disease was not allowed to spread. No other description of contagious malady occurred amongst the horses during the campaign.

Diseases of the digestive organs were few, and readily, yielded to treatment. Respiratory affections were more

frequent, but not sufficiently so as to call for special remarks. Bilious and climatic fevers were prevalent, especially amongst the English horses; but as these cases were promply detected and treated, the mortality was very small. Wounds, contusions, and lameness from various causes, were not unusually frequent, and were, with the exception of gunshot injuries, of the ordinary character generally met with. Gunshot wounds of various degrees of severity, were more or less numerous during each action, and received the prompt attention of the executive Veterinary Officers, both in the field and in hospital. Several successful operations were performed for the removal of bullets. A number of spear wounds also occurred and were successfully treated.

In a former portion of this report I referred to the numerous cases of sore back occurring amongst the horses of the Cavalry Brigade. Sixty-two cases in the 5th Lancers and 23 in the 20th Hussars, were admitted during the month of April. I consider that many of these might have been prevented, had the folded blanket been used instead of the numnah, which was not sufficient to prevent saddle pressure in those instances where muscular wasting occurred from loss of condition.

The cases occurring amongst the mules were comparatively less numerous than amongst the horses, and as they were generally of the same character, special comment is unnecessary.

A number of mules were hamstrung by the Arabs in action. Some of these cases recovered.

No disease of a contagious character was reported.

Scabies (mange) was very prevalent amongst the camels during the earlier portion of the campaign, and was of a highly contagious nature. The steps taken for the detection and suppression of this disease were fully explained in my remarks on the "Lazaretto Camel Zereba." in a former part of this report. The majority of the cases were successfully treated, and the affection eventually stamped out.

An outbreak of enzootic catarrhal fever of a severe form, occurred amongst the transport camels during the month of April, and many hundreds of animals were affected. In the treatment of this disease the energies of the veterinary surgeons in charge were severely taxed, and had it not been for the able assistance of some of the Indian Transport Officers commanding sections, who promptly superintended the carrying out of the various directions with reference to segregation, medicinal and dietetic treatment, watering and general hospital management, the successful termination and ultimate suppression of this disease might have been a much more difficult matter. Arrangements were made for boiling the food, which consisted principally of grain, bran, tibben, and green camel thorn.

Amongst general diseases may be enumerated respiratory and digestive diseases and non-contagious skin affections, exhaustion and simple fever, together with numerous severe wounds and injuries. Some of the latter were very extensive, and numbers of camels were rendered inefficient, owing to the culpable negligence on the part of camel drivers and others, in failing to report cases of sore backs and injuries until the wounds had assumed such serious proportions as to call for severe surgical operations. Many animals were thus rendered permanently unserviceable.

The diseases amongst the transport bullocks were of so simple a character, and the animals were so few in number, that special remark is unnecessary. No diseases of a contagious nature existed.

The necessary arrangements for the prompt treatment of gunshot and other wounds and injuries occurring in action were made, and each executive Veterinary Officer was amply provided with medicines and appliances for use on emergency. Mules or camels were provided for the transport of field medicine chests; and during the latter part of the campaign, each farrier-sergeant was supplied with one of the new veterinary field wallets.

With the view of increasing the efficiency of the Veterinary Department, and of the Service generally, in future campaigns, I beg briefly to submit the following recommendations for your consideration:

1. That arrangements for the formation of a reserve corps of farriers and shoeing-smiths should be made. This is a subject deserving of immediate attention. Casualties on Service from wounds, sickness, and other causes, the formation of new corps, and the establishment of hospitals and remount depots, all point to the urgent necessity which exists for the formation of a reserve staff of farriers. These men should be immediately under the supervision of the Senior Administrative Veterinary Surgeon.

2. That one or two horse ambulances be provided for service with each Army Corps taking the field.

3. That arrangements should be made for the despatch of veterinary medicines and stores, shoes, nails, pack-saddle forges, etc., sufficiently early to ensure their being at the seat of operations when required for use.

4. That a qualified Military Staff Clerk should be sent out with each Administrative Veterinary Officer, and that the necessary supply of official books, stationery, etc., should be embarked on board the same ship.

5. That each veterinary surgeon should be provided with a soldier-servant prior to embarcation.

6. That, if possible, no Veterinary Officer under 12 month's service be sent on a campaign.

7. That every mounted corps should be provided with the Veterinary History Sheets of its horses on embarkation. Considerable inconvenience was experienced during the military operations by these documents, in many cases, being left in England.

8. That a certain proportion of men per troop of Cavalry, battery of Royal Artillery, or Company of Commissariat and Transport Corps, should be thoroughly instructed in "cold shoeing," and that, when qualified, the names of those men should be registered, and their efficiency tested from time to time.

9. That no transport or other animals be purchased for service, without being previously inspected by an Officer of the Army Veterinary Department.

10. That arrangements should be made to supply the necessary material for temporary shelter from the sun, in the case of English horses being engaged on active service in a tropical climate Poles, with mat or canvas screens, answer this purpose very well.

11. That blankets should be provided for all mounted troops, to take the place of numnahs on active serivce. However well a saddle may fit when the horse is in good condition, the protection of the numnah is insufficient to prevent its "coming down" upon the back, in cases where muscular wasting takes place as the result of tbe hardships consequent upon a campaign.

12. That in cases where camels are used with an army in the field, the services of experienced officers, such as those belonging to the Indian transport, should be engaged, and that none but qualified drivers should be employed.

The value of this suggestion was proved by the experience of the late campaign. The condition, health, and general efficiency of the animals belonging to corps commanded by officers well skilled in camel management, was most marked; and from personal observation I am convinced that this important subject is well worthy of the serious consderation of the authorities.

That the camel is a delicate and peculiarly constituted animal there can be no doubt; and we know that, in order to ensure efficiency and to avert serious loss to the public, the various details of dietetic management, distribution and arrangement of loads, inspection and fit-

ting of saddles, grooming, and other minor but important items, must be attended to and carried out under the personal observation and supervision of experienced officers.

In conclusion, I take this opportunity of expressing my sense of the cordial support and assistance received at all times, during the campaign, from the various military authorities, which so greatly facilitated the smooth working of the department.—I have, etc.,

W. B. WALTERS,

Principal Vety. Surgeon to the Forces in Egypt.

ASSOCIATION OF VETERINARY OFFICERS OF HEALTH.

The annual meeting was held in the Caledonian Station Hotel, Edinburgh, on Friday, October 13th, the President, Mr. William Robb, F.R.C.V.S., Glasgow, presiding. County and burgh local authorities in all parts of Scotland were represented, and there were also English representatives from Hull, Newcastle, Bradford, and Sheffield. Amongst others present were Captain Gilmour, M.P., and Prof. Gofton, of the Royal (Dick) Veterinary College.

PRESIDENTIAL ADDRESS.

WILLIAM ROBB, F.R.C.V.S., Glasgow.

It is my privilege as your President to introduce Prof. Delépine and Mr. John Lindsay to you, and I feel satisfied that I give utterance to your wishes when I tender to them a warm welcome, and a deep appreciation of the honour we are receiving by their addressing us today. It is not my intention to detain you by a long address, but, with your permission, I would like to address you for a few minutes on the position of meat inspection and meat inspectors in this country.

It is undoubtedly a fact that meat inspection is now on a much sounder basis than it was a few years ago, but I feel confident that no one present will say that our methods and regulations compare at all favourably with those of our Continental neighbours.

Take the varying conditions that exist in most counties. First of all, you have the large city with whole time inspectors, now, in many instances, under a veterinary officer. A few miles out you find the village butcher with a slaughterhouse behind his shop, and generally no inspection. Proceeding a few miles further on is a country town with a lay inspector, frequently under the supervision of a veterinary inspector who is not a whole-time officer.

Undoubtedly the ideal conditions are those of the large cities, where the inspeetors are free from private practice and devote their whole time and attention to this special subject, the animals being slaughtered in public abattoirs. While it may be true that many splendid animals are dressed in private slaughterhouses, it is against the ideals of modern standards of meat inspection that private slaughterhouses should exist, with or without inspection.

As you are no doubt aware, foreign Governments have drafted regulations for the guidance of their meat inspectors, so that the standard will not vary in almost every town. Compare that with the chaotic condition of matters in this country. What are the regulations drawn up in this country for the guidance of meat inspectors? Nothing but the finding and recommendations of the 1907 Commission on Tuberculosis. These findings, remember, deal only with tuberculous carcases, and no other affections or conditions. Now, let me ask you, are the recommendations of that Commission strictly adhered to by meat inspectors in this country? In my opinion they are not, therefore is it not high time something was done in the way of drafting regulations, more in keeping with modern knowledge and opinion, dealing not only with tuberculous carcases, but also with other diseases and conditions that render meat unfit for the food of man.

This we, along with other representative bodies, have asked the Local Government Board of Scotland to do, also that a veterinary officer be appointed to its staff. Unfortunately it was not thought fit to make such an appointment, nor was it believed that it had the power to draft recommendations dealing with meat inspection for the guidance of meat inspectors.

It does seem a strange thing that a veterinary surgeon is considered qualified by many local bodies to examine meat intended for human consumption, and that the Local Government Board is not yet prepared to appoint one to supervise the work throughout the country. While our position is assured under the Public Health Act, 1907, it will be found, as pointed out recently by Prof. Hay, M.O.H. for Aberdeen, that in the various regulations recently issued by the Local Government Board, the medical officer was the only officer specially named, and that all certificates for exported meat could be signed by him only.

What is the explanation of this condition of affairs? We are recognised by an Act of Parliament, yet in regulations drawn up by the Local Government Board we are ignored. How this method of granting certificates by the medical officer works out in practice I will leave it to others to explain.

It seems to be a matter of opinion as to whether a medical officer or a veterinary officer should have charge of the inspection of animals intended for the food of man. The number of medical men who claim the sole right to this position I believe to be getting gradually less, but in case there be any of my professional brethren present who believe the medical officer's claim to be absolutely dead, permit me to read the following opinion. It would seem that recently there had been an idea amongst some members of the Town Council of Aberdeen that it might be expedient to appoint a veterinary surgeon to act as meat inspector, and naturally the opinion of their medical officer, Professor Matthew Hay, was taken. From *The Medical Officer* I cull the following excerpt:—"Dr. Hay claimed that, in any case, the real question to be settled in the inspection and seizure of meat was whether the meat was fit for the food of man, and whether the disease was communicable to man. The standards, he writes, "fall to be determined by the answer to this question, and the answer could properly be given only by those who had made a study of human diseases, and of their etiology." Happily friction was avoided by the appointment of an additional lay inspector to work along with the previous inspector, under the direction of the medical officer and sanitary inspector.

Far be it from us to claim that we have made such an exhaustive study of human diseases as a medical officer has naturally had to do. Our claim is simply that we have made a study of the diseases in animals that are communicable to man, and from our training are better qualified to judge of abnormal conditions in the lower animals.

The opinion quoted above—as to why a veterinary surgeon should not be appointed to assist in carrying out the terms of the Public Health (Scotland) Act, 1907—is that of a medical officer to a great city—of a city where 40,750 cattle and 42,000 other animals are killed annually, with several slaughterhouses under the supervision of one lay inspector.

To show that all medical men do not hold the views of Professor Matthew Hay of Aberdeen, permit me to quote from an article recently written by Professor

McWeeney, of Dublin, on meat poisoning. Professor McWeeney is a man who has come into close touch with our profession, not only with the qualified man but also as an examiner for the diploma of the Royal College of Veterinary Surgeons. He writes: "It is at the slaughterhouse that such conditions as anthrax, blackquarter, pneumo-enteritis, swine erysipelas, and Gaertner infection can be most readily and certainly diagnosed by the aid of bacteriological procedures that can be efficiently performed by the well trained young men now being turned out by our veterinary colleges."

Personally, I feel confident that in time, as these posts fall vacant, or as public bodies become educated to the vast difference that exists between the man who has made a study of human diseases, and the man who has made a study of animal diseases, especially those communicable to man, we will see a change in the type of man appointed to supervise meat inspection.

Municipal bodies and the public are bound in time to recognise the difference between the man who sits in his office, making up monthly and yearly reports, based on facts and figures supplied by the real inspectors, and the man with an intimate knowledge of this special subject, regulating, guiding, and checking the work of his subordinates by personal supervision.

It was agreed that next meeting should be held in Perth, and Mr. J. G. Reynard, M.R.C.V.S., of that city was chosen president.

After the conclusion of the formal business a paper on "Tuberculosis and the Milk Supply" was read by Prof. Delépine, of the Public Health Department of the Victoria University, Manchester. Having outlined past work in investigating tuberculosis, and referred to the appointment of the Royal Commission on the subject, the Professor said they could accept as proved that bovine tuberculosis was a serious source of danger to man, and that of all bovine tuberculous products tuberculous milk was the most dangerous, owing to the share it took in the feeding of infants. That tuberculous infection of man by man was more common than infection of man by cattle was no reason why one should postpone dealing with bovine tuberculosis till all human sources of infection had been dealt with. The special methods which afforded a measure of protection to man were quite insufficient to protect cattle against the spread of the disease. The reverse was not true, for if bovine tuberculosis were stamped out by general measures the sanitarian would have nothing to fear from tuberculosis of cattle. The eradication of bovine tuberculosis was, therefore, a subject in which the hygienist was keenly interested. Referring to the methods which had been recommended for the sole object of protecting human beings against the effects of the consumption of tuberculous milk, he stated that the boiling of milk fulfilled this purpose efficiently, and as long as tuberculous milk and meat formed a necessity and considerable part of our diet their sterilisation would remain a necessity. Pasteurisation of milk as ordinarily carried out was not, in his opinion, an absolute safeguard. The infectivity of milk, if not entirely removed, was undoubtedly considerably reduced by this process; but he had found by careful experiments that living tubercle bacilli capable of infecting sensitive animals were sometimes present in milk and in cream which had been carefully pasteurised by accepted methods. The same was true of rapid desiccation by heat even when superheated steam was used for the purpose. The removal of slime by centrifugalisation, though good in itself, reduced to a moderate extent only the infectivity of milk. He did not think that any method based upon chemical treatment could effectively destroy the bacilli without rendering the milk unfit for use.

The lecturer referred in some detail to microscopical and bacteriological tests, cultivation tests, and inoculation tests as methods for ascertaining whether milk was infectious or not. He thought he was justified in saying that they were all unsatisfactory when employed for the purpose of controlling directly the sale of milk. He would go further and say that even if an almost instantaneous test were discovered by which the presence of tubercle bacilli in milk could be infallibly detected, this method would not solve the difficulty in a satisfactory manner. In the first place, the infectious material would continued to be distributed as long as the examination of a sample had not revealed its existence. Secondly, the only effect of the testing would be either the exclusion of the contaminated supply from a certain market and its diversion to another, or, if all the markets were closed to tuberculous products, the farmer, being left unguided, would, in the present state of things, be exposed to such losses that the dairy industry would suffer greatly. This method of control of tuberculous milk would therefore afford only partial protection to the consumer, and would seriously damage the dairy industry unless the farmers were at the same time helped to put their herds in order. This difficulty might, however, be partly overcome by a combination of the testing of milk with the inspection of farms. It had been suggested that resistance to tuberculous infection could be so increased by improved social conditions (including good feeding, proper housing, and good sanitation) as to render the chances of infection slight. It was quite true that poor, weak, ill-fed individuals, crowded in unhealthy dwellings, were much more liable to suffer from exposure to infection than others; but he did not believe that simple sanitary and hygienic measures—valuable adjuncts though they were—could overcome the danger of infection by massive doses of infecting material, and, more especially, that infants could be protected in this way from the effects of feeding on tuberculous milk.

The unsatisfactory character of the methods which he had outlined indicated the advantages which, even from an ordinary public health point of view, the eradication of tuberculosis in cattle would have. The task was, however, one requiring cautious consideration on account of its magnitude, and of the financial difficulties which it involves. The method of control at present in use in Manchester was devised for the purpose of protecting the town against the importation of tuberculous milk from the country. The Borough authorities had for a long time been able to control the farms and dairies within its boundaries, but up to 1899 were unable to influence adequately the rural districts from which the bulk of the milk supply was derived. Their preliminary investigations conducted before that date had shown that the rural supply was highly infected. Although personally convinced that general measures would ultimately be found to be the only satisfactory method of prevention, he had from the first done his best to assist Dr. Niven in the carrying out of the policy which he considered to be the only one possible, under the circumstances, for the protection of the town under his care. Under the scheme, samples of the mixed milk coming from various farms were collected at the railway stations or elsewhere within the city, by the food and drug inspectors. These samples were sent to the bacteriological laboratory for examination. Any farm found to send milk causing tuberculosis by inoculation was inspected by the veterinary surgeon, who examined all the cows on the farm and took a sample of milk from each cow having a diseased or suspicious udder. These samples of unmixed milk were tested by inoculation at the bacteriological laboratory. The medical officer of health requested the farmer (1) to isolate the cows yielding tuberculous milk; (2) to cease sending the milk of these cows to town; and (3) he advised the farmer to have the cows with tuberculous udder slaughtered in the presence of the veterinary surgeon of the Corpora-

tion. This advice was followed in a great number of cases. The final step consisted in taking one or more samples of the mixed milk of the farm or shippon from which one or more cows yielding tuberculous milk had been removed. If these control samples were proved by bacteriological examination to be incapable (in the quantities used for the test) of producing tuberculosis, the farm was considered for practical purposes and for the time being free from sources of tuberculous infection capable of rendering the milk dangerous. If the control samples produced tuberculosis the farm was inspected again until all cows secreting tuberculous milk had been removed. The administration of the Manchester milk clauses had had a very marked effect upon the state of the farms supplying milk to Manchester. With one slight break in 1903, the improvement had been very steady, and at the present time the number of farms producing tuberculous milk was less than one-half of what it was in 1896 to 1900. This improvement had been effected (1) by the enforced removal of cows suffering from tuberculosis of the udder, which generally were also affected with advanced tuberculosis of other organs; (2) by the voluntary removal of many other diseased animals as a consequence of the knowledge acquired by the farmers as the result of the inspection of farms in their district by competent men; (3) by a general improvement in the sanitation of farms that had come under the control of the authority, and a better knowledge on the part of the farmer of the circumstances favouring the infection of stock.

A less satisfactory consequence of this improvement of the Manchester supply had been the transfer of suspicious cattle from farms under inspection to farms sending their milk to places which did not control their milk supply. In several cases also, farmers who supplied tuberculous milk to Manchester had, when this was discovered, ceased sending milk to the town, and now send it elsewhere, or use it to make cheese. Under this system, therefore, the benefit gained by the more enterprising community became a source of danger to its less active neighbours. This was true even though the Manchester authority endeavoured by all means in its power to supervise the disposal of infectious animals so as to cause their entire removal. The returns relating to the milk supply of Warrington were very instructive in this respect. In 1909 Dr. Coote Hibbert, the medical officer of health, urged on the Warrington authority the necessity of controlling the milk supply of the town more efficiently than had been previously done. In April, 1910, he began to send samples of milk to his (the lecturer's) laboratory, and to inspect farms found to supply tuberculous milk. Between April, 1910, and September, 1911, 115 samples of milk coming from 69 different farms had been tested, with the result that 11 were found to contain tubercle bacilli. In order to realise the state of things in April, 1910, and the effect which the inspection of farms and the removal of tuberculous cows had had upon the Warrington milk supply, it was necessary to divide the period of eighteen months, over which the work had extended, into three periods of six months each, and to compare the state of the mixed milk and of the farms during the three periods. The results of this comparison showed (1) that eighteen months ago the Warrington milk supply was more extensively infected than the Manchester milk supply had ever been between the years 1896 and 1911; (2) that after only six months' inspection work the Warrington supply had become as good, if not better, than the Manchester milk supply. The remarkable success obtained in this case was, in part, due to the smallness of the area, which made close supervision of the farms comparatively easy, but the rapidity of the change suggested the voluntary removal by the farmers of some suspicious animals. From the wider point of view which should be taken by the statesman it would appear, therefore, that the isolated municipal control of the milk supply had serious defects. Yet it was clear that, so long as the State remained passive, it was the duty of enlightened communities to protect themselves against every possible source of disease. The policy adopted by Dr. Niven in 1899 was undoubtedly the right one under the circumstances, and it had on the whole been very beneficial and instructive, not only to the Manchester citizens, but also to a great number of farmers. Nevertheless, the facts he had related indicated clearly the need for more general measures having for object the stamping out of bovine tuberculosis. Although municipal authorities had a right, for their own protection, to see that the needed work was efficiently done, it was clear that much of what had to be done was entirely out of their sphere of action. It was equally clear that small urban districts would not be able to carry out efficiently work such as had been done in Manchester, so that, if all the large towns succeeded in purifying their milk supply it was probable that much of the milk refused by them would finally be supplied to the smaller towns.

In the latter part of his paper the lecturer discussed the question of the eradication of bovine tuberculosis, referring in some detail to the French system (Nocard and others, 1888); the Danish method (Bang, 1893); and the Prussian method (Ostertag, 1900). His objection to all these methods was that they did not provide (1) for an efficient supervision by competent men of every beast in every district; and (2) for the prevention of the frequent recurrence of sources of infection. The incompleteness of the results obtained by such methods, and the magnitude of the cumulative expenditure caused by this failure, would, he believed, in the end discourage the farmers and the authorities, and make them overlook the beneficial effects which partial measures undoubtedly produced, because these beneficial effects would be insufficient to secure permanent benefits. These considerations led him to devise the system which he first outlined in 1897, and which he had advocated on several occasions since. That system was, briefly—

(1) Division of the whole country into a number of well-defined administrative areas, each provided with an efficient staff of veterinary inspectors.

(2) Marking and registration of all cattle for purposes of inspection and notification. (This would, of course, mean the inclusion of tuberculosis among the recognised contagious diseases.) Systematic periodical inspections of herds and cowsheds within each administrative area. Testing with tuberculin of all cattle.

(3) Isolation of all tuberculous cattle. Disinfection of sheds which have been occupied by tuberculous cattle.

(4) Immediate slaughter of all cattle in an advanced state of tuberculosis (including all cases of udder tuberculosis).

(5) Fattening of all animals not in an advanced state of tuberculosis for the meat market. All cattle should be slaughtered in public abattoirs, so as to ensure thorough meat inspection.

(6) Compensation during one year or two for losses incurred by owners of cattle, except in cases when there had been gross or culpable neglect. After this transitional period of compensation the presence of a case of advanced tuberculosis in a cowshed to render the owner liable to a penalty.

(7) Testing of all cattle brought into the area, so as to prevent the introduction of fresh sources of tuberculosis. No cattle above six years of age to be imported.

(8) All the milk from tuberculous cattle to be boiled before use.

(9) Control of all foreign dairy produce, so as to enforce the same standard of purity as in the case of home produce.

(10) To avoid a sudden national depression in the dairy industry, the enforcement of these measures

should not be simultaneously carried out all through the country, but they should be at first enforced in a certain number of well-demarcated administrative areas, to which, year after year, other districts should be added, until the whole country was under administrative control. It is probable that the work could be accomplished in some five or six years.

The chief difficulty connected with this plan was, as in the case of the other methods, the financial one. This under the system would be temporary only, with, however, the exception of the expenditure caused by the establishment of an efficient veterinary service, which would certainly become a permanent institution, for such a service was needed for many other purposes than the eradication of tuberculosis. The first great outlay would be caused by the removal of old cattle in an advanced state of disease. But this first removal would afterwards secure the entire absence of such cattle. He contended that the disposal of young tuberculous animals in which the disease was very seldom advanced could be effected with little loss if these animals were properly fattened before being sent to the abattoir.

A paper on "Existing and Prospective Legislation *re* Milk Supply," was read by Mr. John Lindsay, Town-Clerk-Depute, Glasgow. He remarked that having regard to the fact that milk was an important part of the food of man, and particularly of that of young children, and that it was undeniably the channel by which many serious diseases and illnesses may be carried to human beings, it was surprising that the law had not been uniform throughout the United Kingdom, and that it had not been set forth in the statutes in simple and concise yet comprehensive terms. The law on the subject, contained in many statutes, orders, and regulations, was complex and confusing, in some instances contradictory, and, in a general sense, chaotic. Mr. Lindsay proceeded to submit a succinct statement of the law on the subject. In the course of his remarks he urged that compensation under the Tuberculosis Order of 1909 ought to be provided out of the Imperial funds, and not placed on the local rates. Commenting on defects in the Bills of Mr. Burns and the Secretary for Scotland, he said these were principally caused by the jealousy of local authorities—the county was jealous of the burgh authorities, and would not permit interference on the part of the latter in dairies and dairy farms when the disease was known to break out and to attach to certain milk producing centres. Until in his clear opinion the representatives of the milk consumers in those larger burghs had some immediate say in the methods of its production, and had the power to refuse to take milk which was suspected of producing illness or disease, the whole question of a town's milk supply could not be on a satisfactory basis so far as the citizens were concerned.

Discussion.

In the afternoon a discussion on the papers took place the first speaker being Mr. Lloyd, Sheffield, who said that he was fully in accord with many of the remarks of Professor Delépine as to proposed legislation, but he was afraid he could not go so far as he went on the matter of finance. He believed that tuberculosis was to be found in dairy produce other than milk. In regard to legislation, he said it was a question how far the public were educated to go, and where the money was to be found. Discussing the second paper, he said that at present notification was practically a dead letter. It must be compulsory, and accompanied by compensation. (Applause.)

Mr. Cameron, Berwick-on Tweed, said he was not a Home Ruler, but there were some lessons to be learned in these matters from Ireland. (Applause.) Continuing, he said there was only one conclusion to come to, and that was that the presidents of the Local Government Board were practically ignorant of the subject, and that they had been led by ignorant, selfish medicals, proving unmistakably the necessity for a veterinary member of the Local Government Board. (Applause.)

Councillor Dr. Erskine, Glasgow, believed that local authorities had power to follow up cases from which infection proceeded. He should like to have seen a greater representation of the medical profession at the meeting. He was not at all orthodox as to the views medical men held in regard to veterinary inspection. He believed the day had arrived when this branch of the work should be left in the hands of veterinary men. From their training, clinically and scientifically, they were very much better qualified to deal with tuberculosis in cattle than medical practitioners were. (Applause.) He did not see why the medical profession would not relinquish this department into the hands of veterinary surgeons. It was irritatingly disappointing that they were taking such a long time to get a satisfactory Bill in regard to the control of milk through Parliament.

Mr. M'Phail, Hull, declared that neither John Burns nor the Local Government Board were led by medical men or anybody else. It was a question of party politics. He gave a number of experiences in the working of the various regulations, and thought this matter should be left with the Local Government Board rather than placed under the Board of Agriculture as had been proposed.

Having to leave to catch a train, Prof. Delépine at this point replied on the discussion; and the Chairman, in expressing the thanks of the meeting, requested him to consent to become an honorary member of the Association, which he did.

Mr. Hugh Begg, Lanarkshire County Council, with reference to the statements as to cows found to be infected being removed by the owners elsewhere, said in Lanarkshire every such case was watched by the authorities. Veterinary surgeons could clear this country of tuberculosis with the greatest of ease if they had plenty of money.

Mr. Peddie, Dundee, and others continued the discussion.

Councillor Smith, Glasgow, said the Corporation of Glasgow were not only wanting legislation but wearying for it. They wished some forward movement could be made.

Mr. Lindsay replied to this discussion, and was also elected an honorary member of the Association.

On the motion of Mr. Lloyd, a resolution was adopted calling upon the Government to take immediate steps to control tuberculosis on the lines suggested in the paper read by Professor Delépine.—*N.B.A.*

Cruelty Charge against a V.S. at Wigton—Dismissed.

At Wigton (Cumberland) Police Court on Tuesday, 24th inst., Joseph Donald, a well-known veterinary surgeon, was summoned on the information of Inspector Hampshire, R.S.P.C.A., for causing a cow to be cruelly ill-treated on divers dates on and between September 19 and October 6.

Mr. Stewart Bevan, barrister-at-law, London (instructed by Mr. Sydney G. Polhill, solicitor, London) appeared for the prosecution, and Mr. Joseph Hetherington, solicitor, Wigton, was for the defendant.

Mr. Stewart Bevan said the substance of the cruel ill-treatment was that the defendant kept, and caused to be kept for a considerable period, a cow which was wholly deprived of the use of one of its forelegs under such conditions as to cause intense distress and considerable pain to the cow in living in a field and moving about

in its attempt to find food and get water. Mr. Donald was a veterinary surgeon, and as the Bench would see from the evidence an attempt was made to avoid what was always a disagreeable duty, namely, prosecuting a member of the profession, who the Society looked to in assisting them to enforce the law with other people in regard to cruelty. It was something like obstinacy on Mr. Donald's part, for when his attention was drawn to the condition in which this cow was existing, and he was asked to remedy things, he refused to do so and told the Society's Inspector to make a case if he could. The Society were therefore obliged to issue a summons.

The cow's front leg was drawn up from the knee and it was unable to use the leg at all, was in a very poor and distressed condition, and bringing the whole weight of the fore part of its body upon the near fore leg: the leg was flexed upward—there could be no downward movement. Its sufferings did not end there for there was a young bull in the field and two young calves which interfered with it. He said it was the duty of everybody, and more particularly he should have thought of a veterinary surgeon, who was more familiar with what was more likely to cause suffering to an animal, when he had an animal in such a condition as that, not to place it in an open field to look after itself, but to put it in a place and, if necessary, sling it to prevent it being in pain, and bring food to it and keep it under conditions which would reasonably alleviate the suffering of the animal.

John Wilkinson, photographer, High Street, Wigton, who took a photograph of the cow at the request of Inspector Hampshire, now produced prints of it.

Inspector Hampshire, R.S.P.C.A., said he first saw the cow on Sept. 18 in the field when passing in the train. It was making spasmodic jumps to get along. On the following day he went to the field and found that the cow was going on three legs, and was in very poor condition. She had a wild look about the eye, and could only walk with difficulty. He examined the deformed leg and found that she could not flex it. Locomotion did not come easy to her, and in his opinion she was suffering both pain and discomfort. There were two calves in the field and as soon as the cow got up they went to her and began to butt her in the udder, and try to force milk to flow. A young bull that was also in the field annoyed her and she laid down. The bull was about 14 or 15 months old. The bull and calves seemed to irritate the cow. Witness afterwards saw the defendant and told him that he had seen the cow, which seemed to be in an awful state and very lame, and that there was a young bull and two calves in it to worry her. He told defendant that he did not think she ought to be there at all. He said, "Why?" and witness replied that the cow was in pain—that it was evident to anybody. Defendant said, "Well, I do not think so," and witness replied, "I must differ with you, Mr. Donald, although you are a veterinary surgeon." Defendant said "Well you know the cow is in no pain, and you can do what you like." As the defendant spoke abruptly, he left him and took him at his word. He had the cow photographed by Mr. Wilkinson. On Sept. 25th he again went to the field in company with Mr. Malloch, V.S., Kirkby Stephen, who examined the cow. The conditions were about the same. There were three feeding troughs lying on the grass, and one was upside down. There were no marks of any kind to show that the troughs had been used for feeding the animals, and he could not find any evidence of food having been brought. They searched the field for a water supply, and found that there was a small beck at the bottom of the field, to get to which the cow would have to go down a steep bank. She would suffer a great deal of pain going down and coming up the bank, and he did not think she would go down unless she was actually forced by thirst to go there. On October 2 he again visited the field and found that things generally were in the same condition. The feeding trough showed no indication of having contained food. There was no alteration in the conditions on the occasion of his visit on October 6.

Cross-examined: When he took out the summons he followed the usual course. It was not usual to state on the summons the manner in which the cruelty was caused.

Mr. Hetherington said that the summons did not state in what manner the cruelty was caused, and it left it open for the prosecution to allege any acts of cruelty they liked when they came into Court.

Cross-examined by Mr. Hetherington, the Inspector said that no complaint was made to him about the cow. His first examination was a visual one. He thought that withering away was evidence of the existence of pain. He did not see the cow lick herself. The cow was suckling two calves, and that would make a difference in her condition. The calves were in fairly good condition and so was the bull. He would not say there was plenty of grass. He believed the cow had suckled four calves. He had asked three veterinary surgeons in Cumberland and one in Northumberland to examine the cow but they refused to do so.

Re-examined: There was a natural reluctance among many professional men to give evidence against another member of their own profession.

Alfred Kershaw, M.R.C.V.S., Southport, said he had had 27 years experience in the middle of an agricultural district. On October 6th he examined a roan cow shown to him by Inspector Hampshire. When he went into the field it was lying down, and the first thing he noticed upon it rising was its miserable appearance. Its coat seemed to be rather harsh, and it had a dull expression in its eye. From the condition of the ground it appeared to have lain about four hours. In the off-fore leg, all the muscles of the fore arm were completely wasted away, and the lower portion of the limb was at right angles to the knee. The limb could be drawn up but it could not be depressed, and it was of no use to the cow in moving about. It was quite evident that she must have been lame for a long time as the result of a fracture. There would be a certain amount of pain on rising, and the condition of the animal pointed to the conclusion that it was being cruelly ill-treated by being kept under such conditions. It would be difficult for the cow to get to the water, and it would be only with great compulsion that she would go. He saw the two calves in the field, and also a bull hanging round and paying her unwelcome attention. The cow had no milk in her udder. Assuming there was no local pain in the leg the animal was not fit to be turned out into the field. It was an act of cruelty to keep it under, what he considered, disgraceful conditions. There were no signs of food having been brought to the feeding troughs, which appeared to have been undisturbed for a long time.

Cross-examined: There were indications of pain because she flinched under extreme pressure. The only sign of local pain he saw on his examination was in the injured limb when the cow attempted to rise. It would not be constituted cruelty if she had been kept inside under better conditions. An animal suffering pain might have a normal temperature and a normal pulse. She would not have any pain when she was in a recumbent position. In case of injuries to the limbs of extremely valuable cattle amputation was resorted to, but it was not so with ordinary milk cows. It was the general conditions under which the cow was living that he objected to.

Re-examined: The animal ought to have been placed in a box and the food brought to her.

Robert M. Malloch, M.R.C.V.S., Kirkby Stephen, who has had 25 years experience, said he examined the cow on September 25th, and found it in a very emaciated condition. It had an anxious expression, and was walk-

ing on three legs, the near fore leg being bent at the knee. A bull was giving her some attention, and she could not get away from it without pain or discomfort to herself. Two calves were butting at her and trying to get milk from the udder, but there was none, and the cow tried to get away best it could. There were no signs of food except grass. It was rather improper to put the cow into the field. It would have been more humane to have tied it up in a stall.

Cross-examined: He took the pulse, which was rapid, and which indicated that there was a certain amount of nervous irritation somewhere. He could not see any signs of good health. The cow had a cough. He did not see any signs of a fracture. The leg would probably have got into the position it had from an injury to the muscles.

William Hunting, F.R.C.V.S., an ex-President of the Royal College of Veterinary Surgeons, in practice in London, said he had seen the cow that morning, and she might have been treated better than had been described. The conditions he objected to were that it had to travel on three legs instead of four, and the difficulty of getting up and down the bank for water. It would certainly add to the discomfort of the animal. The presence of the bull and calves would also add to her discomfort. It was only justifiable to keep a cow like that to get a calf which was valuable, or to endeavour to get it fat for the butcher if it was in poor condition. It would be better in a loose-box than a field.

Cross-examined: He knew that Mr. Donald was one of the examiners of the College. From the conditions under which he found the cow that morning he could not say that it was cruel ill-treatment on the part of Mr. Donald.

George Moffat, signalman, in the employ of the Maryport and Carlisle Railway, said that his cabin overlooked the field, and the cow had been in it all summer. He had never seen any one bring it food or water, and he had seen the cow most days. The cow could not walk, and it had to jump about.

Cross-examined: He had been 20 years in the signal cabin. He saw the cow last summer. He had only seen the bull chase the cow once.

Mr. Stewart Beavan informed the bench that the cow was not in the same field as it was on the dates included in the summons.

This concluded the case for the prosecution.

DEFENCE.

Mr. Hetherington said that when his friend opened the case and asked the Bench to convict on the evidence he put before them, he had not anticipated that an eminent veterinary surgeon like Mr. Hunting would say that he could not see any signs of cruelty and nothing to justify them in convicting the defendant. It was inquitous and most improper that a gentleman in the position of Mr. Donald should should be called there and put to the expense of defending himself upon the charge. After he called his evidence he was going to ask the Bench not only to dismiss the charge but also to say that it ought never to have been brought. If the case for the prosecution depended upon the evidence of Inspector Hampshire they would have something to go on. But they were followed into the box by two veterinary surgeons about whom he did not want to say anything. In justice to Mr. Donald he must say that the photograph had been hawked about to three veterinary surgeons in Cumberland and one in Northumberland before they could get one to come and give evidence against Mr. Donald. Both the gentlemen who had come were unknown to their fellow practitioners in Cumberland, and upon their evidence, notwithstanding the refusal of the others to come, the Bench were asked to convict Mr. Donald, They had heard from their evidence the nature of the examination made. One of them, although he was an expert witness, never saw he fracture at all. Mr. Donald, who was well known o the magistrates, had had a long and varied experience in veterinary surgical matters. Did they think for one moment that he was a man who was likely to keep a cow for two summers in a field in a cruel position? Mr. Donald had a reputation, which went far beyond the borders of Cumberland. He had the highest and best qualification known to veterinary practice which could be obtained, and he was recognised upon that by the leaders of his profession as one of the most expert animal surgeons in the North of England. Mr. Hunting was a President of the Council and Mr. Donald was an ex-member of that Council, and had frequently acted as examiner of candidates who were applying for entry to the profession of Veterinary surgery. The Bench were asked to say that with that reputation and experience behind him, defendant put the unfortunate animal into the field and cruelly ill-treated it. The condition of the animal was due to a fracture of its humerus which occurred on July, 1909—two years and four months ago—and it was due to calve early in September. It was a valuable breeding cow, and a valuable dairy cow. What was to be done in circumstances like that? The only proper surgical course and the only humane course to adopt was to attend to the fracture, wait until the cow calved, and then try to do something to cure the inevitable shortening of the leg that must occur after a fracture of that kind. That was exactly the course adopted by Mr. Donald. He attended to the fracture, waited until the cow had delivered her calves in September and they had got well away, and then he tried to cure the cow of her injury. He had two alternatives—either to amputate the leg or perform the operation of tenotomy, by which the injured limb was drawn clear of the ground. There was no reason for the amputation, which would have been a more cruel and painful way, so Mr. Donald in his judgment decided to perform tenotomy. This he did successfully and it left the limb in the position shown by the photograph. The treatment was quite humane. He would call Mr. Ashley, F.R.C.V.S., of Dalston, who also held the highest qualifications, Mr. T. Richardson, Wreay, and Mr. W. H. Williamson. Waverton, and several railway servants, after which he would ask the Bench to dismiss the case.

Without hearing the evidence the Bench retired, and on their return to Court, the Chairman (Alderman Wm. Williamson) said that they had decided to dismiss the case and each party would have to pay their own costs.

Coleman v. Twining—A New Trial.

In the Court of Appeal on Monday, October 23rd, before Lord Justice Vaughan Williams, Lord Justice Buckley, and Lord Justice Kennedy.

This was an application by the defendant for judgment or a new trial in an action tried before Mr. Justice Lush and a common jury, reported in *The Times* of February 27.

The plaintiff, Mr. John Coleman, a veterinary surgeon, sued the defendant, Mrs. Ada Louisa Twining, to recover the sum of £30 4s. 6d. for professional attendances upon dogs belonging to her. The defendant denied liability and counter-claimed to recover damages for alleged negligence by the plaintiff in the treatment of her dogs in consequence of which they became ill and died of distemper. The alleged negligence consisted in putting such delicate dogs as Japanese spaniels into kennels in an open yard, where low temperature made them prone to distemper, and in not sufficiently isolating the dog which first displayed symptoms of distemper.

At the trial the jury returned a verdict for the plaintiff on the claim and counter-claim, and the learned Judge directed judgment to be entered accordingly. The defendant applied for a new trial on the grounds that verdict was against the weight of evidence, and that the learned Judge had misdirected the jury; and in the alternative for judgment.

Mr. Stewart Bevan appeared for the defendant; Mr. Rawlinson, K.C., and Mr. Patrick Hastings for the plaintiff.

The Court ordered a new trial.

Lord Justice Vaughan Williams said that in his opinion the Court could not refuse to grant a new trial. He thought that the learned Judge had misdirected the jury on a material point which might be reasonably thought to have influenced their verdict in telling them that there was no evidence which would warrant them in finding that one dog either got the disease of distemper or showed signs of distemper so many days before the other dogs that they could come to the conclusion that if there had been proper isolation the other dogs' lives could have been spared.

Lord Justice Buckley said that he had with regret and reluctance come to the conclusion that there had been a misdirection just sufficient to entitle the defendant to a new trial.

Lord Justice Kennedy concurred.

Solicitors.—William Easton and Son; Calder, Woods, and Pethick.

From another report:—

The case which had occupied this Court for two sittings is of special interest to owners of dogs, but also of general interest because of some remarks made by Lord Justice Vaughan Williams, as to persistency in incurring legal expenses upon comparatively trifling matters.

In the course of the proceedings a model of the kennels was produced, and Mr. Bevan proceeded to argue the question of isolation in this form of disease.

Lord Justice Vaughan Williams asked what distance from other unaffected dogs constituted effective isolation.

Mr. Rawlinson: One expert said a quarter of a mile. (Laughter).

Mr. Bevan submitted that, taking into account the period of incubation, the animals were not isolated soon enough.

At the close of Mr. Rawlinson's argument against the appeal, the Court gave judgment allowing the appeal, on the ground of misconduct. They ordered a new trial, and also directed that a sum of £400 paid into Court by Mrs. Twining in respect of the first trial be refunded. Appellant was given costs of her successful appeal, and the cost of the first trial will abide the result of the second.

Lord Justice Vaughan Williams expressed a hope that the parties would not go to a second trial and incur more expense, but that they would allow a friend to act as mediator, with a view to a mutual agreement. This course was all the more advisable because there was not now any imputation upon the general or professional skill of Mr. Coleman. It seemed to him shocking that the parties should be wasting their substance upon a matter in which ten years hence both sides would say it was a matter of perfect indifference whether the case went on or whether it did not.

DISEASES OF ANIMALS ACTS 1894 TO 1910, SUMMARY OF RETURNS.

Period.	Anthrax. Outbreaks Confirm'd	Anthrax. Outbreaks Reported	Anthrax. Animals Confirm'd	Anthrax. Animals Reported	Foot-and-Mouth Disease. Outbreaks	Foot-and-Mouth Disease. Animals.	Glanders (including Farcy) Outbreaks	Glanders (including Farcy) Animals.	Counties Affected Animals Attacked	Sheep Scab. Outbreaks	Swine Fever. Outbreaks.	Swine Fever. Slaughtered. *
GT. BRITAIN. Week ended Oct. 21	25		25		1	1	5	8			28	290
Corresponding week in 1910		26		29			10	20	Essex 1	2	32	390
Corresponding week in 1909		12		13			8	21		1	27	277
Corresponding week in 1908		21		25			15	46	London 3	3	29	372
Total for 42 weeks, 1911	710		878		18	467	166	395	Middlesex 4	315	2036	23855
Corresponding period in 1910		1174		1393	2	15	313	911		359	1173	10701
Corresponding period in 1909		1047		1379			443	1568		489	1385	12447
Corresponding period in 1908		880		1168	3	112	673	2084		652	1688	10332

Board of Agriculture and Fisheries, Oct. 24, 1911.

	Parasitic Mange (outbreaks)											
IRELAND. Week ended Oct. 21	...	...	...	...	...	...	...	6	5	63
Corresponding Week in 1910	...	...	...	...	...	...	2	4	2	17
Corresponding Week in 1909	...	...	...	...	...	...	1	5	...	...
Corresponding Week in 1908	...	...	...	...	...	...	...	2	1	4
Total for 42 weeks, 1911	7	14	...	...	2	3	52	277	112	1895
Corresponding period in 1910	5	8	...	...	1	2	82	375	77	1778
Corresponding period in 1909	8	8	...	...	...	...	69	316	86	1561
Corresponding period in 1908	7	10	...	...	...	...	34	288	148	3469

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Oct. 23, 1911

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

GLASGOW VETERINARY COLLEGE.

The winter session of the Glasgow Veterinary College was opened on Friday afternoon, Oct. 20, when an address was delivered by Dr. D. N. Knox, president of the Faculty of Physicians and Surgeons of Glasgow. Sir Hugh Shaw Stewart, Bart., presided, and there was a good attendance. Amongst those who accompanied the Chairman to the platform were Principal M'Call; Principal Bradley, Royal (Dick) Veterinary College, Edinburgh; Mr. Alan Burns, of Cumbernauld; Mr. Hugh Begg, M.R.C.V.S., Hamilton; Mr. H. R. B. Peile, Greenock; and Mr. Alexander Russell, secretary of the College.

The Chairman said that, while they had with the aid of subscriptions and equivalent grants from the Education Department succeeded in placing the College on a more satisfactory footing, there would undoubtedly be required more money for improvements in the structure. He did not yet quite see where that money was to come from, but he hoped that they would continue to receive the ready support of county councils in the counties of the West of Scotland. (Applause.) Sometimes they heard the man in the street ask what was the use of a veterinary surgeon now that they had taxi-cabs taking the place of horses in such large numbers. It was suffieient to remind the man in the street that there were such things as health committees connected with burgh and town councils, and that the latter were being moved more and more by the people to take greater care of the food, including milk, which was distributed in the towns and cities. It did not require very great penetration to see that the individual in the future on whom the community would have to depend to a large extent in these matters would be the veterinary surgeon.

Dr. Knox's address took the form of a discourse on the developments of the science of bacteriology, with incidental reference to meat inspection and other subjects, and was listened to with the closest attention.

In moving a vote of thanks to Dr. Knox, Principal Bradley said he did so with pleasure for two special reasons—firstly, because he thought the lecturer deserved their thanks for his most stimulating and suggestive address, and secondly, because the address was delivered by the President of the Faculty of Physicians and Surgeons of Glasgow. He took that meeting as an indication that there was a desire for more co-operation between the medical and the veterinary professions. In the past there could be no question that the two professions had been too far apart. The sooner they came to work together, and very closely together, the better it would be for both of them. (Hear, hear). He was particularly gratified by what Dr. Knox had said about veterinarians and public health questions. There could be no doubt that veterinary surgeons were going to be potent factors in the future in the preservation of the health of the people, and the sooner public bodies and the veterinary profession itself realised that, the better it would be for them all. (App.)

Replying to a vote of thanks for presiding, the Chairman said he was amply rewarded by seeing such a good attendance and listening to such a valuable address. He expressed pleasure at having with them that day the Principal of the Dick Veterinary College, Edinburgh. He (the Chairman) was one of a deputation which went through to Edinburgh to meet an equal number of Dick College representatives to consider the question of the equalisation of fees. He had no doubt the Principal of the Edinburgh College wished them well, as they in Glasgow wished the Edinburgh College well.—*N.B.A.*

Personal.

BENNETT.—To Ralph and Constance Bennett, on October 18th, a son, at "Iona," Hornchurch Road, Romford.

Dick College and Veterinary work of Edinburgh Corporation.

The Cleaning and Lighting Committee of the Edin-Town Council had before them on Monday last a deputation from the Royal (Dick) Veterinary College asking that the care of the horses of the Department be put under the College. It seems that at present Principal Dewar, who, as head of the Dick College, looked after this work, has continued it since his resignation, and the College authorities think that this was peculiarly a matter for the College. The deputation consisted of Mr. A. I. Macallum, Principal Bradley, Judge Stevenson, and Mr. R. Anderson, S.S.C., the Secretary of the College. It was agreed to delay a decision for the purpose of certain inquiries being made.—*Edinburgh Evening News.*

ARMY VETERINARY SERVICE.

Extract from *London Gazette*,

WAR OFFICE, WHITEHALL, Oct. 20.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

Lieut D. R. Chatterley is seconded, under the conditions of paragraph 114 of the T.F. Regulations, for employment under the Colonial Office. Dated Sept. 1. Oct. 24.

REGULAR FORCES. ARMY VETERINARY CORPS.

Capt. Edward Brown is placed temporarily on the Half-pay List on account of ill-health. Dated Oct. 25.

OBITUARY.

ROBERT GERALD MELVILLE, M.R.C.V.S., Bridgend, Glam. Graduated, Dublin: July, 1904.

Mr. Melville died on Wednesday, Oct. 18, at the Cottage Hospital, Malton, York, from cerebral hæmorrhage, due to an accidental fall. He was only 28, and leaves a widow and a little son.

EDWARD BOGHURST DAWSON, M.R.C.V.S, Tower Lodge, Clacton-on-Sea. Lond: May, 1844.

Death occurred on October 22nd, at the age of 88 years.

MOTOR CARS AND VETERINARY PRACTICE.

Sir,

A motor car has become such a necessary adjunct to a veterinary practice in these days of rapid transit that a short summary of what the annual cost of a small car amounts to would probably interest many of your readers.

Mine is an 8 h.p. Renault two-seater, which, as far as my observations and experience go, is the best and most satisfactory low-powered two-seater on the market to-day.

Petrol	£15	5	0
Oil and grease	2	8	11
Tyres and repairs to tyres	17	3	9
Sundries	1	10	7
Stove and fuel	1	9	0
Repairs to car (broken petrol pipe and bolt)		4	6
Licence of car	3	3	0
Driving licences		10	0
Insurances of man, etc		15	0
Insurance of car, including mechanical breakdown	8	10	0
	£50	19	9

The wages for the man are not included. The estimated mileage for the year is 6750. The cost of the car, I may say, was £205, and the necessary fittings £38, total £243.

—Yours faithfully,

HENRY TAYLOR.

Hayward's Heath, October 24.

Veterinary Societies—Addresses.

ASSOCIATION OF VETERINARY OFFICERS OF HEALTH
Pres: Mr. William Robb, F.R.C.V.S., Glasgow.
Hon, Sec. & Treas. Mr. A. M. Trotter, M.R.C.V.S., Moore Street, Abattoir, Glasgow.

BORDER COUNTIES V.M.S.
Pres: Mr. J. W. Hewson, M.R.C.V.S., Wigton
Hon. Sec. (pro tem.): Mr. F. W. Garnett, M.R.C.V.S., Dalegarth, Windermere
Meetings, Second Friday of Feb., June, and October

BRITISH COLUMBIA V.M.A.
Pres: Dr. Gibbons, M.R.C.V.S., Vancouver,
Hon. Pres: Dr. Hamilton, M.R.C.V.S., Victoria.
Sec., Treas., Registrar. Dr. T. Jagger, V.S., Vancouver.

CAPE OF GOOD HOPE V.M.S.
Pres. Mr. J. D. Borthwick, M.R.C.V.S., Cape Town
Hon. Sec. & Treas. Mr. R. W. Paine, F.R.C V.S.

CENTRAL V.S.
Pres. Mr. R. J. Foreman, M.R.C.V.S., High Cross, Tottenham
Hon. Sec: Mr. H. A. MacCormack, M.R.C.V.S., 122 St. George's Avenue, Tufnell Park, N.
Meetings, First Thursday in each month, except August and September, 10 Red Lion Square, Holborn, at 7 p.m.

CENTRAL CANADA V.A.
Hon. Sec: Mr. A. E, James, Ottawa

CENTRAL V.A. OF IRELAND.
Pres: Mr. J. F. Healey, M.R.C.V.S., Midleton
Hon. Sec. Mr. E. C. Winter, F R.C.V.S., Queen-st., Limerick
Treas: Mr. P. J. Howard, M.R.C.V.S., Ennis

EASTERN COUNTIES V.M.A.
Pres: Mr. T. G. Heatley, M.R.C.V.S., Woodbridge
Hon. Sec. & Treas: Mr. Sidney Smith, Junr., M.R.C.V.S. 37 High Street, Lowestoft
Meetings, Second Tuesday, Feb., July and Sept.

GLASGOW V.M.S.
Pres. Principal McCall.
Hon. Sec. Mr. J. Gibson, 16 Overdale Gdns, Langside, Glas.

VET. MED. ASSN. OF IRELAND.
Pres: Prin. A. E. Mettam, M R.C V.S., R.V. Coll., Dublin
Hon. Sec: Mr. A. Watson, M.R.C.V.S., Municipal Buildings, Cork Hill, Dublin
Hon. Treas: Prof. Craig, M.A., Royal Vety. Coll., Dublin.

LANCASHIRE V.M.A.
Pres: Mr. J. W. Brittlebank, M.R.C.V.S., Town Hall, Manchester
Hon. Treas: Mr. W. Packman, M.R.C.V.S., Bury, Lancs.
Hon. Sec. Mr. G. H. Locke, M.R.C.V.S., Grosvenor-street, Manchester
Meetings, 1st Thursday in April, June, Sept., & Dec.

LINCOLNSHIRE V.M.S.
Pres. Mr. W. W. Grasby, M.R.C.V.S., Daventry
Hon. Sec: & *Treas*: Mr. C. W. Townsend, F.R.C.V.S., Long Stanton, Cambridge
Meetings, Second Thursday Feb., June, and October

LIVERPOOL UNIVERSITY V.M.S.
Pres: Mr. J. T. Share-Jones, F.R.C.V.S., University, L'pool.
Hon. Secs: Prof. H. E. Annett, The University,
A. Richardson, M.R.C.V.S., 111 Arundel Avenue, L'pool.
Meetings, May, July, October, January.

VET. ASSN. OF MANITOBA.
Pres: Dr. W. A Dunbar, Winnipeg
Hon. Sec. & Treas: Dr. F. Torrance, Winnipeg

MIDLAND COUNTIES V.M.A.
Pres: Mr. H. L. Pemberton, M.R.C.V.S., Bridgnorth
Hon. Sec: Mr. H. J. Dawes, F.R.C.V.S., Camden House, High-st., West Bromwich
Meetings, Second Tuesday, Wednesday, Thursday, and Friday alternately in Feb., May, Aug. and Nov

NATAL VETERINARY MEDICAL ASSOCIATION.
Pres. Mr. H. Watkins Pitchford, Govt. Bacteriologist, Pietermaritzburg
Hon. Sec. & Treas. Mr. J. B. Collyer, Vety. Inspector Natal Police, Pietermaritzburg

NATIONAL VET. ASSOCIATION.
Pres: Mr. W. Woods, F.R.C.V.S., Wigan.
Sec: Mr. William Hunting, F.R.C.V.S. London, S.W.
Treas: Prof. G. H. Wooldridge, F.R.C.V.S., Ryl. Vet. Coll., Camden Town, N.W

NATIONAL VETERINARY BENEVOLENT & MUTUAL DEFENCE SOCIETY.
Pres: Mr. W. A. Taylor, F.R.C.V.S., Brick-st, Manchester
Treas: Mr. J. B. Wolstenholme, F.R.C.V.S., Quay-street, Manchester
Hon. Sec: Mr. G. H. Locke, M.R.C.V.S. Grosvenor Street, Oxford-st., Manchester

NORTH OF ENGLAND V.M.A.
Pres: Mr. E. R. Gibson, M.R.C.V.S. 27 Marlborough-street, Seaham Harbour
Hon. Sec: T. T. Jack, M.R.C.V.S., 3 Elmwood Ter, Sunderland
Meetings, Third Friday, Feb., May, Aug. and Nov.

NORTH OF IRELAND V.M.A.
Pres: Mr. F. W. Emery, F.R.C.V.S., Belfast
Hon. Sec; Mr. J. S. A. Jordan, M.R.C.V.S., Belfast
Hon. Treas; Mr. J. A. Thompson, F.R.C.V.S., Lurgan

NORTH OF SCOTLAND V.M.S.
Pres: Vet. Capt. Clement Baxter, M.R.C.V.S., Elgin
Hon. Sec. & Treas: Mr. G. Howie, M.R.C.V.S. Alford, Aberdeen
Meetings, Last Saturday in January and August

NORTH WALES V.M.A.
Pres: Mr. O. Trevor Williams, M.R.C.V.S., Llangefni
Hon. Sec. Mr. L. W. Wynn Lloyd, M.R.C.V.S., Carnarvon
Meetings, First Tuesday, March and September

ONTARIO V.A.
Pres: Mr. J. H. Tennent, V.S., London, Ontario
Sec: & *Treas*: Mr. C. H. Sweetapple, V.S., Toronto, Ontario

ROYAL COUNTIES V.M.A.
Pres: Mr. E. J. Mellett, M.R.C.V.S., Henley-on Thames
Hon. Sec. & Treas: Mr. G. P. Male, M.R.C.V.S., Reading
Meetings, Last Friday, Jan., April, July and Nov.

ROYAL SCOTTISH V.S.
Pres: Mr. Reid, M.R.C.V.S., Auchtermuchty.

ROYAL VETERINARY COLLEGE M.A.
Pres: Dr. Lander, D.Sc.
Hon. Sec: Mr. S. Gorton, M.R.C.V.S. *Assist*. Mr. T. J. Davis

SCOTTISH METROPOLITAN V.M.S.
Pres: Mr. James Peddie, F.R.C.V.S., Dundee
Hon. Sec: Mr. A. Gofton, M.R.C.V.S., Ryl. Dick Vet. Coll.

SOUTHERN COUNTIES V.S.
Pres: Mr. W. Hunting, F.R.C.V.S., London
Hon. Sec: Mr. J. Alex. Todd, M.R.C.V.S., Worthing
Hon. Treas: Mr. E. W. Baker, M.R.C.V.S., Wimborne
Meetings, Last Thursday, Mar., June and Sept.

SOUTH DURHAM AND NORTH YORKSHIRE V.M.A.
Pres: Mr. W. Awde, F.R.C.V.S., Stockton-on-Tees.
Hon. Sec. & Treas: Mr. J. H. Taylor, F.R.C.V.S. Grange Road, Darlington
Meetings, First Friday, Mar., June, Sept. and Dec.

TRANSVAAL V.M.A.
Pres: Mr. C. E. Gray, F.V.S., Box 134, Pretoria.
Hon. Sec: Mr. P. Conacher, G.V.S., Box 877, Johannesburg

VICTORIA VETERINARY BENEVOLENT FUND.
Pres. W. Freeman Barrett, Esq. Fountain Court, Templ , E.C.
Hon. Sec. & Treas: Mr. W. Shipley, F.R C.V.S. South Town, Great Yarmouth.

WESTERN COUNTIES V.M.A.
Pres: Mr. H. E. Whitemore, M.R.C.V.S., Langport
Hon. Sec. Mr. W. Ascott, M.R.C.V.S., Bideford
Hon. Treas: Mr. P. G. Bond, M.R.C.V.S., Plymouth
Meetings, Third Thursday, March, July and November

WEST OF SCOTLAND V.M.A.
Pres: Mr. J. Macfarlane, M.R.C.V.S, 75 West Nile-st, Glasgow
Hon. Sec: & *Treasr*: Mr. Robert Mitchell, M.R.C.V.S., 1291 Argyll Street, Sandyford
Meetings, Second Wednesday, May, Oct. and January.

YORKSHIRE VET. ASSOCIATION
Pres: Mr. J. W. Lazenby, M.R.C.V.S., Tadcaster
Hon. Sec; Mr. J Clarkson, M.R.C.V.S., Garforth, nr. Leeds
Hon. Treas: Mr. A. McCarmick, M.R.C.V.S., Kirkstall-road, Leeds